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CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210				MORRISON, JAY A
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/776,057	TING ET AL.	
	Examiner	Art Unit	
	JAY A. MORRISON	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 30 March 2009.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-11, 17-34 and 36-41 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-11, 17-34 and 36-41 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Remarks

1. Claims 1-11, 17-34 and 36-41 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 17-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orwant et al. ('Orwant' hereinafter) (*Mastering Algorithms with Perl*, by Jon Orwant et al., Publisher: O'Reilly Media, Inc., Pub Date: August 20, 1999, ISBN-10: 1-565-92398-7) in view of Musser (*Rationale for Adding Hash Table to the C++ Standard Template Library*, by David R. Musser, Computer Science Department, Rensselaer Polytechnic Institute, February 1995).

As per claims 17-18,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 1-2 and are similarly rejected.

As per claim 19-21,

These claims are rejected on grounds corresponding to the arguments given above for rejected claim 1 and are similarly rejected.

As per claim 22, Orwant teaches

A method for comparing a first data set with a second data set, comprising:

(section 6.4, first paragraph)

(a) selecting an entry from the first data set, wherein the first data set is stored on a source storage system; (b) determining if the selected entry from the first data set is in a table; (set a, section 6.4.2)

(c) adding, in response to determining that the selected entry from the first data set is not in the table, the selected entry from the first data set to the table; (d) removing from the table, in response to determining that the selected entry from the first data set is in the table, the selected entry from the first data set; (set intersection, section 6.4.3)

(e) selecting an entry from the second data set, wherein the second data set is located on a destination storage system and the source storage system and the destination storage system are separate stand alone storage systems; (set b, section 6.4.2)

(f) determining if the selected entry from the second data set is in the table; (g) adding, in response to determining that the selected entry from the second data set is not in the table, the selected entry from the second data set to the table; (h) removing, in response to determining that the selected entry from the second data set is in the table, the selected entry from the second data set from the table; (set intersection, section 6.4.3)

(i) independently continuing steps (a) through (d) and (e) through (h) for all entries in the first and second data sets until both the first and second data sets have been completely processed; and (j) reporting a difference between the first data set and

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the second data set in response to at least one entry remaining in the table. (subroutine for set differences between two sets, section 6.4.3)

Orwant does not explicitly indicate "hash table".

However, Musser discloses "hash table" (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of "hash table" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 23, Orwant teaches

the step of adding the selected entry from the first data set to the table further comprises including information with the selected entry from the first data set identifying the selected entry from the first data set as originating from the first data set. (symmetric difference, section 6.4.3)

Orwant does not explicitly indicate "hash table".

However, Musser discloses "hash table" (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of "hash table" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 24, Orwant teaches

the step of adding the selected entry from the second data set to the table further comprises including information with the selected entry from the second data set identifying the selected entry from the second data set as originating from the second data set. (symmetric difference, section 6.4.3)

Orwant does not explicitly indicate "hash table".

However, Musser discloses "hash table" (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of "hash table" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 25, Orwant teaches

the step of removing the selected entry from the second data set from the table occurs in response to identifying a match between a selected entry from the second data set and an entry from the first data set. (symmetric difference, section 6.4.3)

Orwant does not explicitly indicate "hash table".

However, Musser discloses "hash table" (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of "hash

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table" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 26, Orwant teaches

(k) recording all entries remaining in the table as being unique to either the first data set or the second data set. (symmetric difference, section 6.4.3)

Orwant does not explicitly indicate "hash table".

However, Musser discloses "hash table" (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of "hash table" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claims 27-28,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 10-11 and are similarly rejected.

4. Claims 1-16, 29-31 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orwant et al. ('Orwant' hereinafter) (Mastering Algorithms with Perl,

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by Jon Orwant et al., Publisher: O'Reilly Media, Inc., Pub Date: August 20, 1999, ISBN-10: 1-565-92398-7) in view of Musser (Rationale for Adding Hash Table to the C++ Standard Template Library, by David R. Musser, Computer Science Department, Rensselaer Polytechnic Institute, February 1995) and further in view of rsync (rsync Unix command manual page, version 2.4.1, February 2000).

As per claim 1, Orwant teaches

A method for comparing a first directory comprising unique elements with a comprising unique elements, comprising: (section 6.4, first paragraph)

(a) for each entry in the first directory, placing the entry in a table, wherein the first is stored on a source storage system; (set a, section 6.4.2)

(b) selecting an entry from the second, wherein the second is located on a destination storage system and the source storage system and the destination storage system are separate stand alone storage systems; (set b, section 6.4.2)

(c) looking up the selected entry in the table; (d) removing, in response to locating the selected entry in the table, the selected entry from the table;(e) determining if additional second entries exist;(f) looping to step (b) in response to identifying additional second entries; and (g) reporting a difference between the first and the second in response to at least one first entry remaining in the table. (subroutine for set differences between two sets, section 6.4.3)

Orwant does not explicitly indicate "hash table".

However, Musser discloses "hash table" (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of "hash table" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

Neither Orwant nor Musser explicitly indicate "directory".

However, rsync discloses "directory" (OPTIONS section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of "directory" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 2, Orwant teaches

identifying, in response to not locating the selected entry in the table, that the selected entry is second unique. (section 6.4.1; figure 6-8)

Orwant does not explicitly indicate "hash table".

However, Musser discloses "hash table" (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of "hash table" would have given those skilled in the art the tools to improve the invention by

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allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

Neither Orwant nor Musser explicitly indicate "directory".

However, rsync discloses "directory" (OPTIONS section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of "directory" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 3, Orwant teaches

performing, in response to not locating the selected entry in the table, a remedial function. (symmetric difference, section 6.4.3)

Orwant does not explicitly indicate "hash table".

However, Musser discloses "hash table" (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of "hash table" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 4, Orwant teaches

the remedial function comprises deleting the selected entry of the second. (delete in symmetric difference, section 6.4.3)

Neither Orwant nor Musser explicitly indicate "directory".

However, rsync discloses "directory" (OPTIONS section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of "directory" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 5, Orwant teaches

identifying in response to no additional entries existing, any remaining entries in the table data as being first unique.(section 6.4.3)

Orwant does not explicitly indicate "hash table".

However, Musser discloses "hash table" (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of "hash table" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

Neither Orwant nor Musser explicitly indicate "directory".

However, rsync discloses "directory" (OPTIONS section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of “directory” would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 6, Orwant teaches performing in response to no additional entries existing, a remedial function.
(symmetric difference, section 6.4.3)

As per claim 7, Orwant teaches the remedial function comprises deleting the selected entry of the first.
(symmetric difference, section 6.4.3)
Neither Orwant nor Musser explicitly indicate "directory".
However, rsync discloses “directory” (OPTIONS section).
It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of “directory” would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 8, Orwant teaches

the remedial function comprises transferring the selected entry from the first to the second. (symmetric difference, section 6.4.3)

Neither Orwant nor Musser explicitly indicate "directory".

However, rsync discloses "directory" (OPTIONS section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of "directory" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 9, Orwant teaches

the step of removing the selected entry from the table occurs in response to identifying a match between a selected entry of the first and an entry of the second. (symmetric difference, section 6.4.3)

Orwant does not explicitly indicate "hash table".

However, Musser discloses "hash table" (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of "hash table" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

Neither Orwant nor Musser explicitly indicate "directory".

However, rsync discloses “directory” (OPTIONS section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of “directory” would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 10, Orwant teaches

the table comprises a B-tree. (b-tree, section 3, first page)

Orwant does not explicitly indicate "hash table".

However, Musser discloses “hash table” (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of “hash table” would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 11, Orwant teaches

the table comprises a fast lookup data structure. (section 3, first page)

Orwant does not explicitly indicate "hash table".

However, Musser discloses “hash table” (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant and Musser because using the steps of "hash table" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 12,

Neither Orwant nor Musser explicitly indicate "the first data set comprises a set of directory entries on a source system".

However, rsync discloses "the first data set comprises a set of directory entries on a source system" (OPTIONS section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of "the first data set comprises a set of directory entries on a source system" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 13,

Neither Orwant nor Musser explicitly indicate "the second data set comprises a set of entries of a directory on a destination system".

However, rsync discloses “the second data set comprises a set of entries of a directory on a destination system” (OPTIONS section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of “the second data set comprises a set of entries of a directory on a destination system” would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 14,

Neither Orwant nor Musser explicitly indicate "the first data set comprises a set of directory entries on a destination system".

However, rsync discloses “the first data set comprises a set of directory entries on a destination system” (OPTIONS section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of “the first data set comprises a set of directory entries on a destination system” would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 15,

Neither Orwant nor Musser explicitly indicate "the second data set comprises directory entries on a source data set".

However, rsync discloses "the second data set comprises directory entries on a source data set" (OPTIONS section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of "the second data set comprises directory entries on a source data set" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claim 16,

Neither Orwant nor Musser explicitly indicate "the first data set and the second data set are on different storage devices".

However, rsync discloses "the first data set and the second data set are on different storage devices" (OPTIONS section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Orwant, Musser and rsync because using the steps of "the first data set and the second data set are on different storage devices" would have given those skilled in the art the tools to improve the invention by allowing quicker determination of processing of entries. This gives the user the advantage of better use of computing resources.

As per claims 29-31,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 12-13 and 16 and are similarly rejected.

As per claim 39, rsync teaches

the step of reporting comprises recording the difference on a disk. (OPTIONS SUMMARY section)

5. Claims 32-34, 36-38 and 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over rsync (rsync Unix command manual page, version 2.4.1, February 2000) in view of Musser (Rationale for Adding Hash Table to the C++ Standard Template Library, by David R. Musser, Computer Science Department, Rensselaer Polytechnic Institute, February 1995) and further in view of Orwant et al. ('Orwant' hereinafter) (Mastering Algorithms with Perl, by Jon Orwant et al., Publisher: O'Reilly Media, Inc., Pub Date: August 20, 1999, ISBN-10: 1-565-92398-7).

As per claim 32, rsync teaches

A system for performing a consistency check of a source directory replicated to a destination directory by comparing entries in the source and destination directories, the system comprising: (DESCRIPTION section)

one or more storage disks configured to store one or more of a group consisting of the source directory and the destination directory; (USAGE section)

and a process configured to compare entries in the source directory with entries in the destination directory by walking the source and destination directories only once, whereby utilization of storage subsystems associated with the source and destination directories is limited by only walking each of the source and destination directories once, (OPTIONS section, -r command; ‘configured to’ indicates intended use; Minton v. Nat'l Ass'n of Securities Dealers, Inc., 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003) “whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited.” Examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are: (A) “adapted to” or “adapted for” clauses; (B) “wherein” clauses; and (C) “whereby” clauses. Therefore intended use limitations are not required to be taught, see MPEP § 2106 Section II(C), MPEP 2111.04 [R-3], hereinafter *intended use*)

and further configured to report a difference between the source directory and the destination directory, wherein the source directory is located on a source storage system and the destination directory is located on a destination storage system and the source storage system and the destination storage system are separate stand alone storage systems. (OPTIONS section, -r command; “configured to” indicates intended use).

rsync does not explicitly indicate "hash table".

However, Musser discloses “hash table” (page 8, paragraph 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine rsync and Musser because using the steps of “hash table” would have given those skilled in the art the tools to improve the invention by allowing quicker determination of f entries. This gives the user the advantage of better use of computing resources.

Neither rsync nor Musser explicitly indicate “the process is further adapted to remove matching entries from a ... table, whereby future look up operations in the ... table are enabled to be performed faster due to a smaller size of the ... table”.

However, Orwant discloses “the process is further adapted to remove matching entries from a ... table, whereby future look up operations in the ... table are enabled to be performed faster due to a smaller size of the ... table” (subroutine for set differences between two sets, section 6.4.3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine rsync, Musser and Orwant because using the steps of “the process is further adapted to remove matching entries from a ... table, whereby future look up operations in the ... table are enabled to be performed faster due to a smaller size of the ... table” would have given those skilled in the art the tools to improve the invention by using set functions to help organize and manage data. This gives the user the advantage of simplified algorithms which provide more efficient solutions to complex problems.

As per claim 33, rsync teaches

the process executes on a computer associated with the source directory.

(DESCRIPTION section)

As per claim 34, rsync teaches

the process executes on a computer associated with the destination directory.

(DESCRIPTION section)

As per claims 36-37,

These claims are rejected on grounds corresponding to the arguments given above for rejected claim 32, respectively, and are similarly rejected.

As per claim 38, rsync teaches

the directory comparison process is further configured to alternate in selecting entries from the source and destination directories when walking the source and destination directories. (OPTIONS section, -r command; “configured to” indicates intended use)

As per claim 40, rsync teaches

the step of reporting comprises recording the difference on a disk. (OPTIONS SUMMARY section)

As per claim 41, rsync teaches

the process is further adapted to report the difference by recording the difference on the storage disks. (OPTIONS SUMMARY section)

Response to Arguments

6. Applicant's arguments, see page 11, filed 3/30/2009, with respect to the objection to the specification for failing to provide antecedent basis for "computer readable media" have been fully considered and are persuasive. The objection of the specification has been withdrawn. It is noted that for purposes of examination "computer readable media" is drawn to statutory subject matter.

7. Applicant's arguments filed 3/30/09 have been fully considered but they are not persuasive.

With respect to claims 32-34, Applicant argues that rsync does not disclose "the process is further configured to remove matching entries from a hash table, whereby future look up operations in the hash table are enable to be performed faster due to a smaller size of the hash table". Respectfully, it is noted that the newly added Musser and Orwant references disclose the amendment to the claim and Applicant's arguments with respect to claim 32-34 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that neither Orwant nor Musser disclose determining the difference between a first and second directory using a hash table and reporting the differences with the hash table only storing entries for the differences. Respectfully, it is noted that the newly added rsync reference discloses reporting difference in directories while the Orwant reference discloses removing members of one set that are also members of another set to find set differences (section 6.4.1 and figure 6-8). In addition, the Musser reference teaches using a hash table for associative sets (page 8, paragraph 9). It is respectfully submitted that the combination of these ideas does in fact teach the respective limitations as claimed. With respect applicants remaining arguments that neither Orwant nor Musser disclose directories on different systems it is respectfully submitted that the newly added rsync reference teaches these limitations and Applicant's arguments with respect to claim 32-34 have been considered but are moot in view of the new ground(s) of rejection

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, one of ordinary skill in the art would be familiar with hash tables as a method of efficiently storing data and dealing with sets of data. This knowledge would allow one of ordinary skill in the art

to draw on this information in solving the problem at hand by combining the teaching of these references to disclose the instant claims.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record, listed on form PTO-892, and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tim T. Vo/
Supervisory Patent Examiner, Art Unit 2168

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